

REMARKS

Claims 1, 2, 5-19 and 22-24 were examined and reported in the Office Action. Claims 1, 2, 5-19 and 22-24 are rejected. Claims 1, 17 and 19 are amended. Claims 1-2, 5-19 and 22-24 remain.

Applicant requests reconsideration of the application in view of the following remarks.

I. 35 U.S.C. § 112

It is asserted in the Office Action that claims 1, 2, 5-19 and 22-24 are rejected under 35 U.S.C. § 112, second paragraph, as failing to set forth the subject matter which applicants regard as their invention. Applicant respectfully traverses the aforementioned rejection for the following reasons.

Applicant asserts that the 35 U.S.C. § 112, second paragraph rejection is incorrect as an ordinary person skilled in the art would understand, and also due to the definition of a software defined radio (SDR) in the background section of Applicant's specification that indicates that a SDR includes hardware and software components. In particular, as recited in Applicant's original specification (page 4, lines 2-9) the

basic hardware necessary for the implementation includes a wideband analog RF (Radio Frequency) front-end and a general digital processor reconfigurable with a high processing speed. For IF (Intermediate Frequency) processing of a digitized signal, a digital down-converter is used at the RF end to convert the digital signal to a baseband signal. A receiver filter is a very important part of the digital down-converter, and must be reconfigurable for the respective communication standards according to the basic concept of SDR.

Therefore, since the SDR implements hardware and software, Applicant respectfully requests that the 35 U.S.C. § 112, second paragraph rejection be withdrawn.

Accordingly, withdrawal of the 35 U.S.C. § 112, second paragraph rejection for claims 1, 2, 5-19 and 22-24 is respectfully requested.

II. 35 U.S.C. § 103(a)

A. It is asserted in the Office Action that claims 1, 2, 5, 6, 10-16, 19 and 22-24 are rejected in the Office Action under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent 7,110,732 issued to Mostafa et al ("Mostafa") in view of U. S. patent 5,909,384 issued to Tal et al ("Tal"). Applicant respectfully traverses the aforementioned rejection for the following reasons.

According to MPEP §2142

“[t]o establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.” (In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

Further, according to MPEP §2143.03, “[t]o establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)).” “*All words in a claim must be considered in judging the patentability of that claim against the prior art.*” (In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970), emphasis added.)

Mostafa discloses a subsampling receiver including two baseband filters 134I and 134Q. Mostafa further discloses multiple RF bandpass filters 70, 74 and 78. These filters are used to reduce noise. Tal discloses a system for only reducing filter operations by shortening the filter's length. The system in Tal for dynamically adjusting the length of a filter uses the adjustment to ensure quality remains above a specified threshold. Tal does not teach, disclose or suggest adjusting a length of a filter so it can be used for another communication standard where the communication standards are associated with different RF and bandwidths.

Further, Mostafa and Tal each do not teach, disclose or suggest that a receiver filter shares common resources. Moreover, even if Mostafa is combined with Tal, the resulting invention would still not teach, disclose or suggest Applicant's amended claim 1 limitations of

a plurality of digital frequency mixers for, upon receiving a digitalized intermediate frequency signal, converting the received intermediate frequency signal to a baseband signal; a receiver filter for removing a high-band signal from the converted baseband signal, each digital frequency mixer is associated with different radio frequencies (RF) for multiple communication standards associated with different RF and different bandwidths,

nor Applicant's amended claim 19 limitations of "(c) controlling implementation of a receiver filter performing (b) to support multiple communication standards having different radio frequencies and different bandwidths."

Therefore, even if Mostafa is combined with Tal, the resulting invention would still not teach, disclose or suggest the limitations contained in Applicant's claims 1 and 19. Since neither Mostafa, Tal, and therefore, nor the combination of the two, teach, disclose or suggest all the limitations of Applicant's claims 1 and 19, as listed above, Applicant's claims 1 and 19 are not obvious over Mostafa in view of Tal since a *prima facie* case of obviousness has not been met under MPEP §2142. Additionally, the claims that either directly or indirectly depend on claims 1 and 19, namely claims 2, 5-6 and 10-16, and 22-24, respectively, would also not be obvious over Mostafa in view of Tal for the same reason.

Since neither Mostafa, Tal, and therefore, nor the combination of the two, teach, disclose or suggest all the limitations of Applicant's amended claims 1 and 19, as listed above, Applicant's amended claims 1 and 19 are not obvious over Mostafa in view of Tal since a *prima facie* case of obviousness has not been met under MPEP §2142. Additionally, the claims that directly or indirectly depend from amended claims 1 and 19, namely claims 2, 5-6, 10-16, and 20-24, respectively, would also not be obvious over Mostafa in view of Tal for the same reason.

Accordingly, withdrawal of the 35 U.S.C. § 103(a) rejections for claims 1, 2, 5, 6, 10-16, 19 and 22-24 are respectfully requested.

B. It is asserted in the Office Action that claims 7-9 are rejected in the Office Action under 35 U.S.C. 103(a) as being unpatentable over Mostafa in view of Tal, and further in view of U. S. Patent 6,678,317 issued to Murakami et al ("Murakami"). Applicant respectfully traverses the aforementioned rejection for the following reasons.

Applicant's claims 7 and 9 indirectly depend on amended claim 1. Applicant has addressed Mostafa in view of Tal regarding amended claim 1 above in section II(A).

Murakami discloses an adaptive equalizer device and a method for controlling an adaptive equalizer in digital communications, such as digital cable television. Even if Murakami is combined with Mostafa and Tal, the resulting invention would still not teach, disclose or suggest Applicant's amended claim 1 limitations of

a plurality of digital frequency mixers for, upon receiving a digitalized intermediate frequency signal, converting the received intermediate frequency signal to a baseband signal; a receiver filter for removing a high-band signal from the converted baseband signal, each digital frequency mixer is associated with different radio frequencies (RF) for multiple communication standards associated with different RF and different bandwidths.

Since neither Mostafa, Tal, Murakami, and therefore, nor the combination of the three, teach, disclose or suggest all the limitations of Applicant's amended claim 1, as listed above, Applicant's amended claim 1 is not obvious over Mostafa in view of Tal and Murakami since a *prima facie* case of obviousness has not been met under MPEP §2142. Additionally, the claims that indirectly depend from amended claim 1, namely claims 7 and 9, would also not be obvious over Mostafa in view of Tal and Murakami for the same reason.

Accordingly, withdrawal of the 35 U.S.C. § 103(a) rejections for claims 7-9 are respectfully requested.

C. It is asserted in the Office Action that claims 17 and 18 are rejected in the Office Action under 35 U.S.C. 103(a) as being unpatentable over Murakami in view of Tal. Applicant respectfully traverses the aforementioned rejection for the following reasons.

Applicant's amended claim 17 contains the limitations of "a multiplexer for supporting filter coefficients for multiple communication standards having different radio frequencies and different bandwidths simultaneously."

Murakami discloses an adaptive equalizer device and a method for controlling an adaptive equalizer in digital communications, such as digital cable television. Tal discloses dynamically adapting the length of a digital communication filter. Tal further discloses that each filter is constructed to have a particular number of taps or delay units.

Even if Murakami and Tal were combined, the resulting invention would still not teach, disclose or suggest Applicant's amended claim 17 limitations of "a multiplexer for supporting filter coefficients for multiple communication standards having different radio frequencies and different bandwidths simultaneously."

Since neither Murakami, Tal, and therefore, nor the combination of the two, teach, disclose or suggest all the limitations of Applicant's amended claim 17, as listed above, Applicant's amended claim 17 is not obvious over Murakami in view of Tal since a *prima facie* case of obviousness has not been met under MPEP §2142. Additionally, the claim that directly depends from amended claim 17, namely claim 18, would also not be obvious over Murakami in view of Tal for the same reason.

Accordingly, withdrawal of the 35 U.S.C. § 103(a) rejections for claims 17 and 18 are respectfully requested.

CONCLUSION

In view of the foregoing, it is submitted that claims 1-2, 5-19 and 22-24 patentably define the subject invention over the cited references of record, and are in condition for allowance and such action is earnestly solicited at the earliest possible date. If the Examiner believes a telephone conference would be useful in moving the case forward, he is encouraged to contact the undersigned at (310) 207-3800.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§1.16 or 1.17, particularly, extension of time fees.

Respectfully submitted,

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CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence is being submitted electronically via EFS Web on the date shown below to the United States Patent and Trademark Office.


Jean Svoboda

Date: July 31, 2007